Supporting information

Aptamer-Functionalized Exosomes: Elucidating the Cellular Uptake Mechanism and the Potential for Cancer-Targeted Chemotherapy

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Table S1. DNA sequences designed in this work.

Probe Name	Sequences (from 5' to 3')
Lipid-sgc8	Diacyllipid-(PEG) ₂ -TTT TTT TAT CTA ACT GCT GCG CCG GGA AAA TAC TGT ACG GTT AGA
Lipid-sgc8- FAM	Diacyllipid-(PEG) ₂ -TTT TTT TAT CTA ACT GCT GCG CCG GGA AAA TAC TGT ACG GTT AGA FAM
Lipid-sgc8- TAMRA	Diacyllipid-(PEG) ₂ -TTT TTT TAT CTA ACT GCT GCG CCG CCG GGA AAA TAC TGT ACG GTT AGA TAMRA
sgc8-FAM	TTT TTT TAT CTA ACT GCT GCG CCG CCG GGA AAA TAC TGT ACG GTT AGA FAM
Lipid-lib	Diacyllipid-(PEG) ₂ -NNN NNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
Lipid-lib- FAM	$\label{eq:diacyllipid-(PEG)2-NNN NNN} Diacyllipid-(PEG)_2-NNN NNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNN$

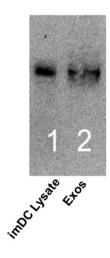


Figure S1. Western blot analysis of specific Exos marker proteins (CD63).

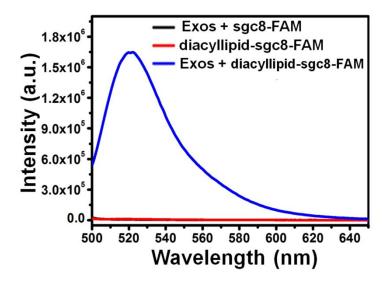


Figure S2. Fluorescence spectra of the precipitant solution in different samples.

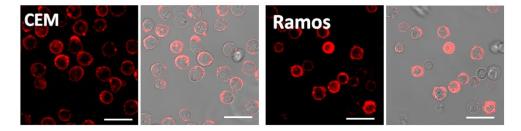


Figure S3. CLSM images of CEM cells or Ramos cells treated with TAMRA-labeled diacylipid-sgc8 conjugates (500 nM) at 37 $^{\circ}$ C for 0.5 h. The scale bar represents 20 μ m.

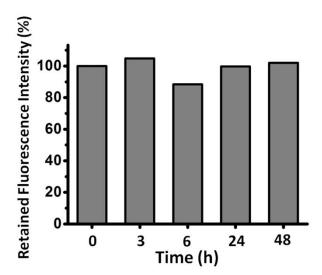


Figure S4. Relative fluorescence intensity of Dil remained in the Exos after incubation in PBS (pH 7.4) for different time spans.

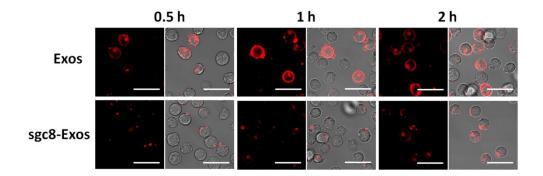


Figure S5. CLSM images of CEM cells incubated with Dil-labeled Exos or Dil-labeled sgc8-Exos for different lengths of time. The scale bar represents 30 μ m.

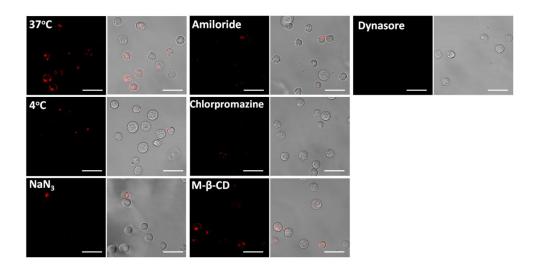
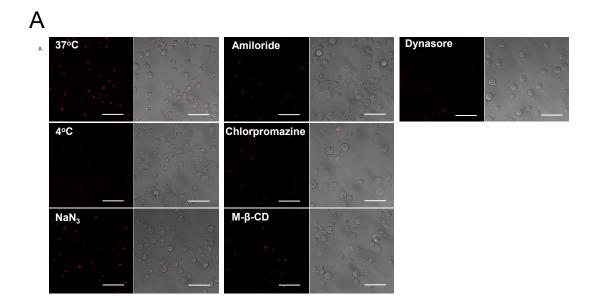


Figure S6. CLSM images of CEM cells incubated with Dil-labeled sgc8-Exos at different conditions. The scale bar represents 30 μm .



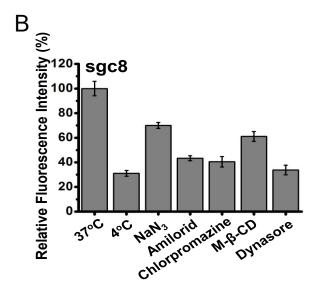


Figure S7. (A) CLSM images of CEM cells incubated with Cy5-labeled sgc8 at different conditions. The scale bar represents 30 μ m. (B) Histogram analysis of the corresponding fluorescence signal.

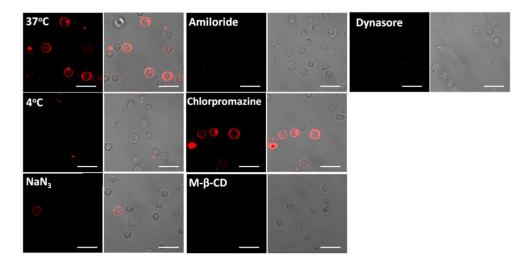


Figure S8. CLSM images of CEM cells incubated with Dil-labeled Exos at different conditions. The scale bar represents $30 \, \mu m$.

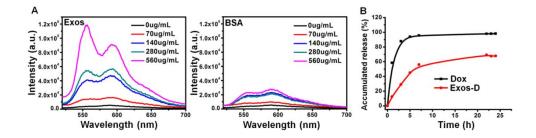


Figure S9. (A) Fluorescence spectra of Dox after incubation with different concentration of Exos or BSA. (B) Release profiles of free Dox and Dox from Exos-D in PBS (pH 7.4).

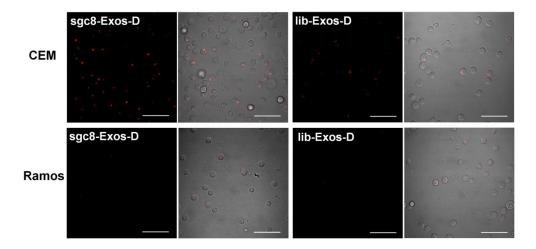


Figure S10. CLSM images of CEM cells or Ramos cells treated with sgc8-Exos-D (A) or lib-Exos-D (B) at 37 $^{\circ}$ C for 1 h. The scale bar represents 50 μ m.

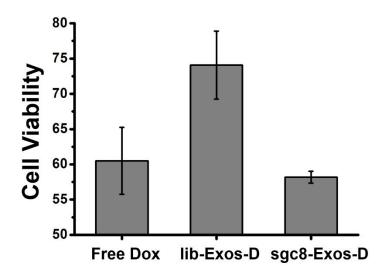


Figure S11. Cytotoxicity assay of CEM cells incubated with free Dox, lib-Exos-D or sgc8-Exos-D at 37 $^{\circ}$ C for 48 h. The corresponding concentration of Dox was fixed at 1 μ M.